



DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39

[Docket No. FAA-2022-0993; Project Identifier MCAI-2022-00295-T; Amendment 39-22262; AD 2022-25-06]

RIN 2120-AA64

Airworthiness Directives; De Havilland Aircraft of Canada Limited (Type Certificate Previously Held by Bombardier, Inc.) Airplanes

AGENCY: Federal Aviation Administration (FAA), Department of Transportation (DOT).

ACTION: Final rule.

SUMMARY: The FAA is adopting a new airworthiness directive (AD) for certain De Havilland Aircraft of Canada Limited Model DHC-8-402 airplanes. This AD was prompted by an investigation that found that the actual operating temperatures within the integrated flight cabinet (IFC) were significantly higher than anticipated during certification. This AD requires a modification to improve the IFC cooling capacity. The FAA is issuing this AD to address the unsafe condition on these products.

DATES: This AD is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

The Director of the Federal Register approved the incorporation by reference of a certain publication listed in this AD as of [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

ADDRESSES:

AD Docket: You may examine the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-0993; or in person at Docket Operations between 9 a.m. and 5 p.m., Monday

through Friday, except Federal holidays. The AD docket contains this final rule, the mandatory continuing airworthiness information (MCAI), any comments received, and other information. The address for Docket Operations is U.S. Department of Transportation, Docket Operations, M-30, West Building Ground Floor, Room W12-140, 1200 New Jersey Avenue SE, Washington, DC 20590.

Material Incorporated by Reference:

- For service information identified in this final rule, contact De Havilland Aircraft of Canada Limited, Dash 8 Series Customer Response Centre, 5800 Explorer Drive, Mississauga, Ontario, L4W 5K9, Canada; telephone North America (toll-free): 855-310-1013, Direct: 647-277-5820; email thd@dehavilland.com; website dehavilland.com.

- You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195. It is also available at regulations.gov under Docket No. FAA-2022-0993.

FOR FURTHER INFORMATION CONTACT: Gabriel Kim, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; email 9-avs-nyaco-cos@faa.gov.

SUPPLEMENTARY INFORMATION:

Background

The FAA issued a notice of proposed rulemaking (NPRM) to amend 14 CFR part 39 by adding an AD that would apply to certain De Havilland Aircraft of Canada Limited Model DHC-8-402 airplanes. The NPRM published in the *Federal Register* on August 12, 2022 (87 FR 49776). The NPRM was prompted by AD CF-2022-09, dated March 3, 2022, issued by Transport Canada, which is the aviation authority for Canada (referred to

after this as the MCAI) (Transport Canada CF-2022-09). The MCAI states that as a result of higher-than-expected failure rates in service, the supplier's investigation found that actual operating temperatures within the IFC were significantly higher than anticipated during certification. Consequently, the reliability of the IFC module does not meet safety objectives. The MCAI further states this failure mode could lead to uncontrolled autopilot pitch trim servo runaway and/or failure of the stall warning and stick pusher, resulting in reduced controllability of the airplane.

In the NPRM, the FAA proposed to require a modification to improve the IFC cooling capacity. The FAA is issuing this AD to address the unsafe condition on these products.

You may examine the MCAI in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-0993.

Discussion of Final Airworthiness Directive

Comments

The FAA received comments from the Air Line Pilots Association, International (ALPA), who supported the NPRM without change.

The FAA received an additional comment from Horizon Air. The following presents the comment received on the NPRM and the FAA's response to each comment.

Request to Exclude Job Set-up and Close-out

Horizon Air requested that the final rule mandate only paragraph 3.B., "Procedure," of the Accomplishment Instructions of De Havilland Service Bulletin 84-21-24, Revision B, dated Oct 13, 2021, because that corrects the unsafe condition. Horizon Air stated that paragraph 3.A. "Job Set-up," and paragraph 3.C., "Close Out" of the Accomplishment Instructions of De Havilland Service Bulletin 84-21-24, Revision B, dated Oct 13, 2021, do not directly correct the unsafe condition. The commenter stated that incorporating the "Job Set-up" and "Close Out" procedures as a requirement of the

AD restricts an operator's ability to perform other maintenance in conjunction with the incorporation of the service information.

The FAA agrees with the requested change for the reasons provided by the commenter. In addition, this change corresponds to Transport Canada AD CF-2022-09, dated March 3, 2022. The FAA has revised paragraph (g) of this AD accordingly.

Conclusion

This product has been approved by the aviation authority of another country and is approved for operation in the United States. Pursuant to the FAA's bilateral agreement with this State of Design Authority, it has notified the FAA of the unsafe condition described in the MCAI referenced above. The FAA reviewed the relevant data, considered the comments received, and determined that air safety requires adopting this AD as proposed. Accordingly, the FAA is issuing this AD to address the unsafe condition on this product. Except for minor editorial changes, and any other changes described previously, this AD is adopted as proposed in the NPRM. None of the changes will increase the economic burden on any operator.

Related Service Information under 1 CFR Part 51

De Havilland Aircraft of Canada Limited has issued Service Bulletin 84-21-24, Revision B, dated October 13, 2021. This service information specifies procedures for a modification to improve the IFC cooling capacity. The tasks include reworking the forward and aft avionics rack side panels, removing the piccolo tube assemblies, doing a general visual inspection for contamination of the IFCs and avionics rack, cleaning any contamination found, installing and routing new cooling ducts, and installing two new extraction plenums in the avionics rack cooling system.

This service information is reasonably available because the interested parties have access to it through their normal course of business or by the means identified in the ADDRESSES section.

Costs of Compliance

The FAA estimates that this AD affects 56 airplanes of U.S. registry. The FAA estimates the following costs to comply with this AD:

Estimated costs for required actions

| Labor cost | Parts cost | Cost per product | Cost on U.S. operators |
|--|------------|------------------|------------------------|
| 11 work-hours X \$85 per hour = \$935 | \$6,950 | \$7,885 | \$441,560 |

The FAA has included all known costs in its cost estimate. According to the manufacturer, however, some or all of the costs of this AD may be covered under warranty, thereby reducing the cost impact on affected operators.

Authority for this Rulemaking

Title 49 of the United States Code specifies the FAA's authority to issue rules on aviation safety. Subtitle I, section 106, describes the authority of the FAA Administrator. Subtitle VII: Aviation Programs, describes in more detail the scope of the Agency's authority.

The FAA is issuing this rulemaking under the authority described in Subtitle VII, Part A, Subpart III, Section 44701: General requirements. Under that section, Congress charges the FAA with promoting safe flight of civil aircraft in air commerce by prescribing regulations for practices, methods, and procedures the Administrator finds necessary for safety in air commerce. This regulation is within the scope of that authority because it addresses an unsafe condition that is likely to exist or develop on products identified in this rulemaking action.

Regulatory Findings

This AD will not have federalism implications under Executive Order 13132. This AD will not have a substantial direct effect on the States, on the relationship between the

national government and the States, or on the distribution of power and responsibilities among the various levels of government.

For the reasons discussed above, I certify that this AD:

(1) Is not a “significant regulatory action” under Executive Order 12866,

(2) Will not affect intrastate aviation in Alaska, and

(3) Will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act.

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

The Amendment

Accordingly, under the authority delegated to me by the Administrator, the FAA amends 14 CFR part 39 as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§ 39.13 [Amended]

2. The FAA amends § 39.13 by adding the following new airworthiness directive:

2022-25-06 De Havilland Aircraft of Canada Limited (Type Certificate Previously Held by Bombardier, Inc.): Amendment 39-22262; Docket No. FAA-2022-0993; Project Identifier MCAI-2022-00295-T.

(a) Effective Date

This airworthiness directive (AD) is effective [INSERT DATE 35 DAYS AFTER DATE OF PUBLICATION IN THE FEDERAL REGISTER].

(b) Affected ADs

None.

(c) Applicability

This AD applies to De Havilland Aircraft of Canada Limited (Type Certificate previously held by Bombardier Inc.) Model DHC-8-402 airplanes, certificated in any category, serial numbers 4095 through 4633 inclusive.

(d) Subject

Air Transport Association (ATA) of America Code 21, Air Conditioning System.

(e) Unsafe Condition

This AD was prompted by an investigation that found that the actual operating temperatures within the integrated flight cabinet (IFC) were significantly higher than anticipated during the certification. Consequently, the reliability of the IFC module does not meet safety objectives. The FAA is issuing this AD to address the high operating temperatures within the IFC, which could lead to uncontrolled autopilot pitch trim servo runaway and failure of the stall warning and stick pusher, resulting in reduced controllability of the airplane.

(f) Compliance

Comply with this AD within the compliance times specified, unless already done.

(g) Required Actions

Within 8,000 flight hours or 48 months, whichever occurs first, from the effective date of this AD, do a modification to improve the IFC cooling capacity, in accordance with paragraph 3.B., "Procedure," of the Accomplishment Instructions of De Havilland Aircraft of Canada Limited Service Bulletin 84-21-24, Revision B, dated Oct 13, 2021.

(h) Credit for Previous Actions

This paragraph provides credit for actions required by paragraph (g) of this AD, if those actions were performed before the effective date of this AD using De Havilland Aircraft of Canada Limited Service Bulletin 84-21-24, Revision A, dated August 20, 2021.

(i) Other FAA AD Provisions

The following provisions also apply to this AD:

(1) *Alternative Methods of Compliance (AMOCs)*: The Manager, New York ACO Branch, FAA, has the authority to approve AMOCs for this AD, if requested using the procedures found in 14 CFR 39.19. In accordance with 14 CFR 39.19, send your request to your principal inspector or responsible Flight Standards Office, as appropriate. If sending information directly to the manager of the certification office, send it to ATTN: Program Manager, Continuing Operational Safety, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; fax 516-794-5531. Before using any approved AMOC, notify your appropriate principal inspector, or lacking a principal inspector, the manager of the responsible Flight Standards Office.

(2) *Contacting the Manufacturer*: For any requirement in this AD to obtain instructions from a manufacturer, the instructions must be accomplished using a method approved by the Manager, New York ACO Branch, FAA; or Transport Canada; or De Havilland Aircraft of Canada Limited's Transport Canada Design Approval Organization (DAO). If approved by the DAO, the approval must include the DAO-authorized signature.

(j) Additional Information

(1) Refer to Transport Canada AD CF-2022-09, dated March 3, 2022, for related information. This Transport Canada AD may be found in the AD docket at [regulations.gov](https://www.regulations.gov) under Docket No. FAA-2022-0993.

(2) For more information about this AD, contact Gabriel Kim, Aerospace Engineer, Mechanical Systems and Administrative Services Section, FAA, New York ACO Branch, 1600 Stewart Avenue, Suite 410, Westbury, NY 11590; telephone 516-228-7300; email 9-avs-nyaco-cos@faa.gov.

(3) Service information identified in this AD that is not incorporated by reference is available at the addresses specified in paragraphs (k)(3) and (4) of this AD.

(k) Material Incorporated by Reference

(1) The Director of the Federal Register approved the incorporation by reference of the service information listed in this paragraph under 5 U.S.C. 552(a) and 1 CFR part 51.

(2) You must use this service information as applicable to do the actions required by this AD, unless this AD specifies otherwise.

(i) De Havilland Aircraft of Canada Limited Service Bulletin 84-21-24, Revision B, dated Oct 13, 2021.

(ii) [Reserved]

(3) For service information identified in this AD, contact De Havilland Aircraft of Canada Limited, Dash 8 Series Customer Response Centre, 5800 Explorer Drive, Mississauga, Ontario, L4W 5K9, Canada; telephone North America (toll-free): 855-310-1013, Direct: 647-277-5820; email thd@dehavilland.com; website dehavilland.com.

(4) You may view this service information at the FAA, Airworthiness Products Section, Operational Safety Branch, 2200 South 216th St., Des Moines, WA. For information on the availability of this material at the FAA, call 206-231-3195.

(5) You may view this service information that is incorporated by reference at the National Archives and Records Administration (NARA). For information on the availability of this material at NARA, email fr.inspection@nara.gov, or go to: www.archives.gov/federal-register/cfr/ibr-locations.html.

Issued on November 30, 2022.

Christina Underwood, Acting Director,
Compliance & Airworthiness Division,
Aircraft Certification Service.

